

Delta Plan Performance Measures

Summary: The Delta Reform Act requires the Council to include performance measures in the Delta Plan to gauge its success. While the measures included in the Delta Plan fully meet that requirement, staff has been reviewing them in preparation for tracking and implementation. This report provides a status of that review; highlights, progress to date, and provide some of the implementation challenges and opportunities identified by staff during the review.

Background

The Delta Reform Act of 2009 requires the Delta Plan to include performance measures that enable the Council to track progress in meeting its objectives. These performance measures are to include quantitative or other “measureable assessments of the status and trends” of the health of the Delta as well as the reliability of the State’s water supply exported from the Sacramento and San Joaquin river watersheds (Water Code sections 85211 and 85308).

The Delta Reform Act also established specific other requirements for the Delta Plan related to performance measures. These requirements include utilizing monitoring data, data collection and analysis “sufficient to determine progress toward meeting the quantified targets,” methods the Council will use to measure progress towards achieving the coequal goals, and, recommendations for integrating scientific and monitoring results into ongoing Delta water management (Water Code section 85308).

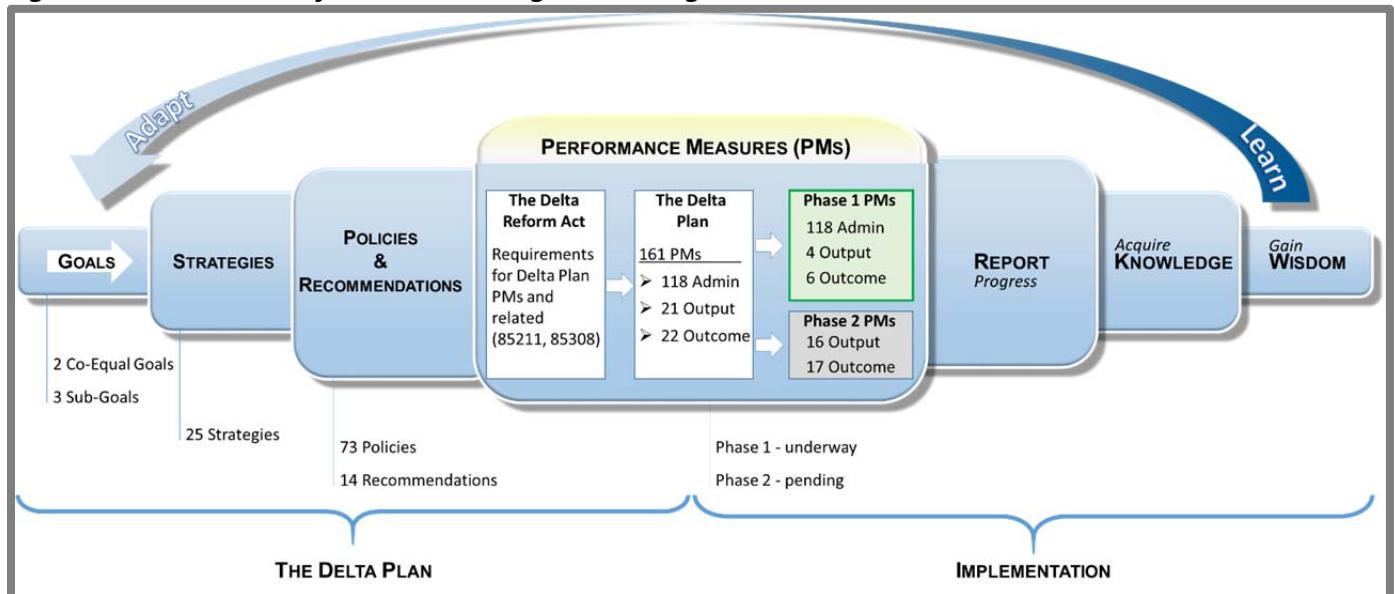
The Delta Plan incorporates performance measures to meet those requirements, but it also acknowledges that the Plan’s “initial set of performance measures will be expanded and refined after adoption of the Delta Plan and will be considered for inclusion in subsequent updates of the Delta Plan.

Development of informative and meaningful performance measures is a challenging task that will continue after the adoption of the Delta Plan. Performance measures need to be designed to capture important trends and to address whether specific actions are producing expected results. Efforts to develop performance measures in complex and large-scale systems like the Delta are commonly multiyear endeavors. The Council will improve all performance measures, but will focus on outcome measures through a multiyear effort, using successful approaches for developing performance measures employed by similar efforts elsewhere... .”

Figure 1 illustrates the linkage between the Delta Reform Act’s goals and requirements for performance measures with the strategies, policies, recommendations and performance measures incorporated into the Delta Plan. This figure further illustrates

how performance measures fit into an adaptive process. Performance measurement data is gathered and reported in a continuous cycle of decision support and improvement. Measures must be flexible and allowed to be refined as the understanding of the system and/or condition evolves.

Figure 1: Delta Plan Performance Management Program



In the summer of 2013, as the Council switched its focus from creating to implementing the Delta Plan, staff started work on refinement of the Delta Plan performance measures. In December of 2013, staff reported to the Council that planning was underway and a full assessment of Delta Plan performance measures for implementation readiness was being conducted. Staff discussed with the Council the approach and how the final product of this assessment would provide the Council with the ability to efficiently organize, prioritize, track, refine, and report on progress as revealed by the performance measures in the Delta Plan. In July 2014 staff reported on the status of their review, highlighted some of the implementation challenges and opportunities, gave an update on the reconfiguring of the Council's inherited Delta activities system, and discussed next steps in this process.

The Delta Plan currently contains 161 performance measures in three types: 118 administrative measures, 21 output measures and 22 outcome measures. Administrative performance measures indicate dates or targets achieved for the actions recommended by the Delta Plan, and the resources expended. Output performance measures track results of actions and outcome measures track the impacts of those actions. Figure 2 below provides examples of three types of performance measures as applied to habitat restoration projects.

Figure 2: Performance measure sample to explain terminology

ADMINISTRATIVE	OUTPUT	OUTCOME
Dollars spent on habitat restoration projects	Acres restored by habitat type	Trends in native species using restored habitat

Full implementation of a performance measure occurs in three steps:

- Step 1. Assessment – identifying information required for implementation
- Step 2. Data collection – obtaining and analyzing supporting information
- Step 3. Reporting – presenting the analysis in a meaningful way to illustrate progress and trends

To date, staff efforts have been focused primarily on steps 1 and 2. Specifically, staff have assessed all 161 Delta Plan performance measures, collected information on the 118 administrative performance measures and have collected and analyzed supporting information for an initial subset of 10 output/outcome measures. While the administrative performance measures are more easily implemented and reported on, output and outcome measures are more complex and require more detailed and extensive information/data for full implementation.

Administrative Performance Measures

Of the 118 actions tracked by the Plan's administrative performance measures, 16 (or 14%) have been completed, 78 measures (or 66%) are active, and 24 (or 20%) are inactive. The current status of each measure (Completed, Active, Inactive) is provided in Attachment 1. Summary results are provided in Figure 3 on the following page organized by Delta Plan chapter. The figure also includes highlights of key agencies responsible for implementation and linkages to key Delta programs, plans or projects.

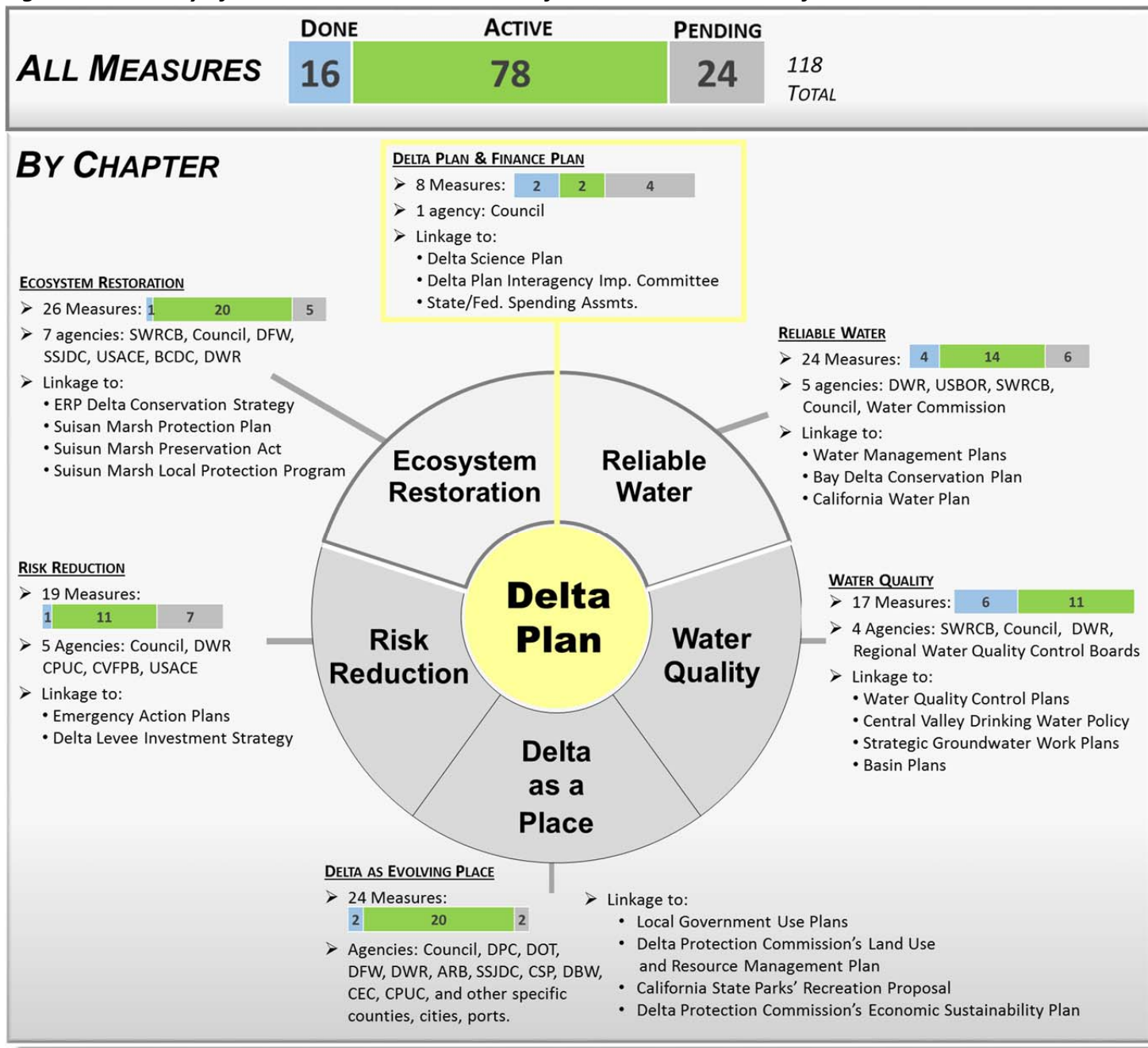
- **Completed Administrative Actions: 16**

The 16 administrative actions completed over this last year primarily consist of Council specific tasks, water resource tasks related to groundwater and storage and water quality. Outside forces such as the current drought contributed to progress in a few key areas such as groundwater related measures.

Of the more than 20 state, federal, and other non-governmental entities involved in implementing Delta Plan activities, six have completed one or more actions as of this reporting:

- ✓ Department of Water Resources (4 completed)
- ✓ Regional Water Quality Control Boards (4 completed)
- ✓ State Water Resources Control Board (3 completed)
- ✓ Delta Stewardship Council (3 completed)

Figure 3: Summary of Delta Plan Administrative Performance Measures as of December 2014



- ✓ Department of Fish and Wildlife (1 completed)
- ✓ Delta Protection Commission (1 completed)

Progress highlights include:

- ✓ Established the Delta Plan Interagency Implementation Committee and held two meetings in 2014 (April and November).
- ✓ DWR identified state's groundwater basins in critical overdraft condition.
- ✓ SWRCB reported to the Council on proposed actions to address groundwater basins in critical overdraft.
- ✓ DWR, Council, ACWA, CA Water Commission conducted a survey to identify potential future storage and water delivery projects.
- ✓ DFW prioritized "Stage 2 Actions for Nonnative Invasive Species".
- ✓ Regional Water Quality Control Board's completed TMDL and Basin Plan amendments for Methylmercury, Diazinon, and Chlorpyrifos.
- ✓ Regional Water Quality Control Board's developed the Sacramento-San Joaquin Delta regional water quality monitoring program.

- **Active Administrative Actions: 78**

This category represents the majority of the 118 actions indicating that many of the identified tasks have been initiated and are in progress. These actions represent a wide variety of agencies and tasks, and due to their nature are expected to take longer to complete. Of the 78 active administrative actions, 75 are divided between the water reliability (14), ecosystem restoration (20), Delta as place (20), water quality (11) and risk reduction (11) chapters of the Delta Plan. The remaining action is from Chapter 2 (Delta Plan) and refers to future updates of the Delta Plan. Highlights of currently-active progress include:

- ✓ State Water Project water contract extension and the process for this
- ✓ Bay Delta Conservation Plan
- ✓ Water storage studies
- ✓ Groundwater studies and reporting
- ✓ Water transfers
- ✓ State Water Resources Control Board's water supply reporting requirements
- ✓ Ecosystem restoration-related activities

- **Inactive Administrative Actions: 24**

There are 24 actions in this category representing 20% of the total number of administrative actions. With the exception of Chapter 6 (Water Quality), every Delta Plan chapter includes a set of inactive measures. Reasons for inactive status include:

- ✓ *Timing* – due dates for completion are far out into the future or not yet established and no immediate action is currently being taken (e.g. 2018 update to the Delta Plan, updates to the Suisun Marsh Preservation Plan)

- ✓ *Resource* limitations – lack of adequate funding, staff and other resources are prohibiting action on some activities.
- ✓ *Dependencies/research* – Specific actions described in these administrative measures are part of a larger and often longer-term process and no action is required or possible. This includes several measures that call for legislative action or require further research, outreach, analysis or funding before implementation of measures.

Output and Outcome Performance Measures – Overview

As specified in the Delta Plan, the output/outcome performance measures are intended to continuously assess and illuminate important trends for the range of issues encompassed in the Plan and to highlight whether specific actions, undertaken by the implementing agencies and others to implement the Delta Plan, are producing expected results.

For example, staff have initiated preliminary performance reporting for the two pilot performance measures highlighted later in this report. We are seeing progress being made as 905 acres of land have been managed to address subsidence reversal and carbon sequestration

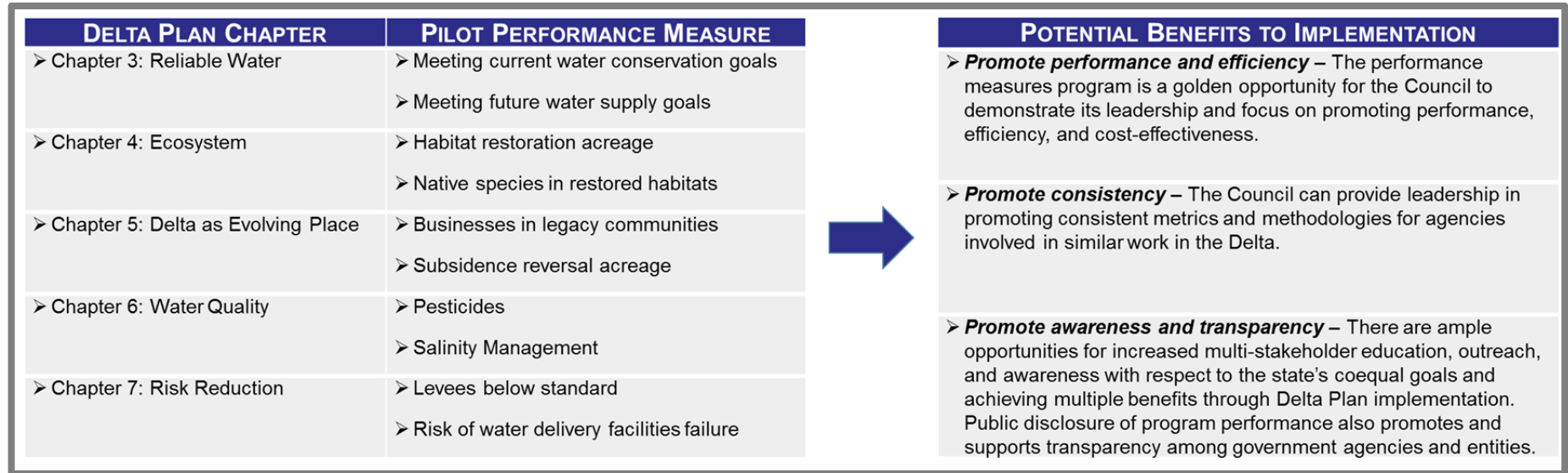
Additionally, with our other example, Aquatic habit restoration, staff confirmed that there are important projects very close to implementation that will positively impact progress toward achieving the goals. For instance, the Calhoun Cut Enhancement project which is in the construction phase will result in enhancing 160 acres of tidal marsh.

Each of these two examples are more fully described starting on page 8 below ('Highlights').

Finally, staff have performed an extensive analysis of output/outcome performance measures listed in the Delta Plan and this analysis has yielded progress in key areas as well as important lessons for implementation:

- **Progress to date:** Staff selected a subset of 10 output/outcome performance measures to focus upon in the near-term as an initial reporting 'Pilot'. Figure 4 on the following page lists the selected pilot measures by chapter and also describes overarching benefits to implementation. By starting out in this way with a smaller set of pilot measures, the Council will have an early opportunity to help validate methods and benefits and then apply needed refinements before full implementation of the remaining 33 measures. Related accomplishments include:
 - ✓ Developing and/or identifying metrics, baselines and targets for measures where this information is available.

Figure 4: Pilot Output/Outcome Performance Measures and Potential Implementation Benefits



- ✓ Identifying and cataloging, in detail, the contacts and agencies required for data collection, monitoring, and reporting on these measures as they are implemented, as well as identifying potential future sources of data as they evolve.
 - ✓ Highlighting the availability of data - as well as the nature of that data - required for implementation and assessment of these measures.
 - ✓ Developing a detailed set of procedures for reporting of these measures that allow for consistency and reliability in tracking these measures.
 - ✓ Building a working network of agencies and contacts that can collaborate with the Council for long term data coordination, monitoring, and reporting
- **Lessons learned:** The Council's analysis has also served to highlight critical challenges to the implementation and tracking of several of these measures, and has identified key "next steps" and/or actions that need to occur to ensure success in implementation. Specifically, these include:
 - ✓ Identifying important data gaps, deficiencies, or dependencies, where agencies need to coordinate
 - ✓ Identifying measures for which indicators or metrics need to be developed by topical experts in a given arena, for incorporation into the performance measures.
 - ✓ Identifying funding deficiencies and/or gaps that impact indicator development, data collection, and project and/or action implementation
 - ✓ Identifying metrics or targets that may need revision, to better reflect the purposes of a particular measure
 - ✓ Communicating among participating agencies and the public, to advance a shared understanding of the Council's role in Delta Plan implementation and performance tracking.

Output and Outcome Performance Measures – Highlights

Highlights from the analysis of two outcome performance measures are provided below to illustrate the achievements noted above, as well as key refinements and challenges that may need to be addressed.

- **Acres of Land Converted to Address Subsidence Reversal and Carbon Sequestration**
Delta Plan Chapter 5: Delta as Evolving Place
The drainage and cultivation of Delta peat soils for agricultural use initiated a process of land subsidence (up to 25 feet below sea level in some areas), resulting in impaired Delta agriculture, increased flood risks, and the liberation of vast quantities of carbon dioxide through the oxidation of peat soils. Tule farming, i.e., growing wetland plants instead of agricultural crops, has the potential to

rebuild peat soils and sequester carbon on deeply subsided islands. Conversion to rice farming can halt, if not reverse, subsidence. Delta farmers who choose to grow plants that halt or reverse subsidence and sequester carbon may soon have access to grant funding or the opportunity to sell credits on the carbon market. The Delta Conservancy is working with several partners to submit coordinated proposals to the California Department of Fish and Wildlife (DFW) for their Wetlands Restoration for Greenhouse Gas Reduction Program to support the creation of over 2,000 acres of managed wetlands on state-owned lands and over 1,500 acres on private lands, as well as a Delta-wide greenhouse gas emissions inventory and a Framework for Delta Wide Accounting of Greenhouse Gases. All of this work is supported by ongoing efforts to develop a California Wetlands Protocol. The Conservancy and its partners have also applied for funds from the USDA Natural Resource Conservation Service to support the work with landowners. Periodic assessments of converted acreage will determine whether land subsidence is being reduced by strategic investments in the Delta. Staff analysis found:

- ✓ *Readiness for implementation* – Little refinement needed; continue to track ongoing DWR projects and collaborate with the Conservancy and DFW to track non-DWR projects.
- ✓ *Metric* – Number of acres converted relative to the target.
- ✓ *Target, baseline and trend* – The target is defined in the Delta Plan (DP R7) as 5,000 acres by January 1, 2017. The baseline is set at zero in 2008. Land conversions of 905 acres from 2008-2011 will be counted towards meeting the target. The California Department of Water Resources (DWR) has the lead role in implementing these projects.
- ✓ *Performance reporting* – Chronicling annual quantitative acreage totals will allow for assessment of trends towards the overall target of 5,000 acres. Data will be supported by qualitative analysis from specialists within the Council and DWR.
- ✓ *Challenges* – Although this measure is well defined, the following observations and factors should be considered:
 - Partial view: To date, projects have primarily occurred on land owned and/or managed by DWR. As projects are implemented, and data is collected, criteria to identify the most strategic investments for subsidence reversal can be developed. Integral to this approach is the consideration of key uncertainties (e.g., sea level rise; Methylmercury, dissolved organic carbon, and methane; and issues of scale).
 - Need to collaborate: Council staff must coordinate with DWR for data collection, as DWR is the only organization currently implementing projects focused on subsidence reversal. New grant programs to support carbon sequestration and the adoption of a California Wetland Protocol for carbon credits are expected to create additional incentives for Delta farmers. As funding for this

work grows, the participation of other organizations and landowners may make tracking acreage more difficult.

- **Number of Acres of Aquatic Habitat Restored**

- Delta Plan Chapter 4: Ecosystem Restoration*

Ecosystem protection, restoration, and enhancement is one of the coequal goals of the Delta Plan. This performance measure was designed to ensure that this fundamental goal is being met, by measuring progress in implementing pilot scale projects in priority habitat restoration areas, meeting the biological opinions (BOs) targets of acres of restored habitat for listed species, and ensuring that adaptive management is integral to restoration projects. Use of this measure will aid in determining whether strategic investments are being made to restore the Delta. Staff analysis found:

- ✓ *Readiness for implementation* – While the main metrics and parameters for this measure have been identified, its implementation is directly dependent on the construction of pilot restoration projects on the ground, which is just beginning.
 - ✓ *Metric* – Number of acres of aquatic habitat restored.
 - ✓ *Target, baseline and trend* – Suggested initial targets for this measure are those identified in the Central Valley Project (CVP) and State Water Project (SWP) biological opinions (BOs): restoration of 8,000 acres of intertidal and associated subtidal habitat, and enhancement of 17,000-20,000 acres of salmon floodplain rearing habitat, with corresponding target dates of 2018-19. This target may be subject to upward revision if the Bay Delta Conservation Plan (BDCP) is approved. The baseline is set at zero as of the Delta Plan's adoption date so that all future restoration actions are counted. Existing acreage could also be tracked to ensure overall increases in habitat.
 - ✓ *Performance reporting* – Reporting by the Council can take a number of forms, including clear, quantitative charts or graphs as well as qualitative analysis from habitat restoration specialists within the Delta science and management community. Examples are provided in Figure 5 on the following page.
 - ✓ *Challenges* – As the figure highlights, while there are an identified set of potential pilot aquatic habitat restoration projects in the pipeline, they need to move from planning to construction in order for this performance measure to be implemented. There are also other factors that will further impact the accuracy and value of this measure, specifically:
 - Partial view: The target values come from the BOs, which focus on priority habitat areas for delta smelt and salmonids. If the goal is to restore a more robust and diverse ecosystem, these acreage targets may require upward revision, as well as encompassing a broader range of habitat types, as proposed in the draft BDCP. Time scale considerations are an additional challenge. Restoration

is a long-term ecological process, thus the short-term measurements encompassed in this measures may fail to capture complex, long-term facets of “successful” restoration.

- Need to collaborate: Reporting of this measure will require collaboration between the bodies overseeing specific projects. The Council will ensure consistency and accountability for measure evaluation and provide adaptive management guidance.

Next Steps

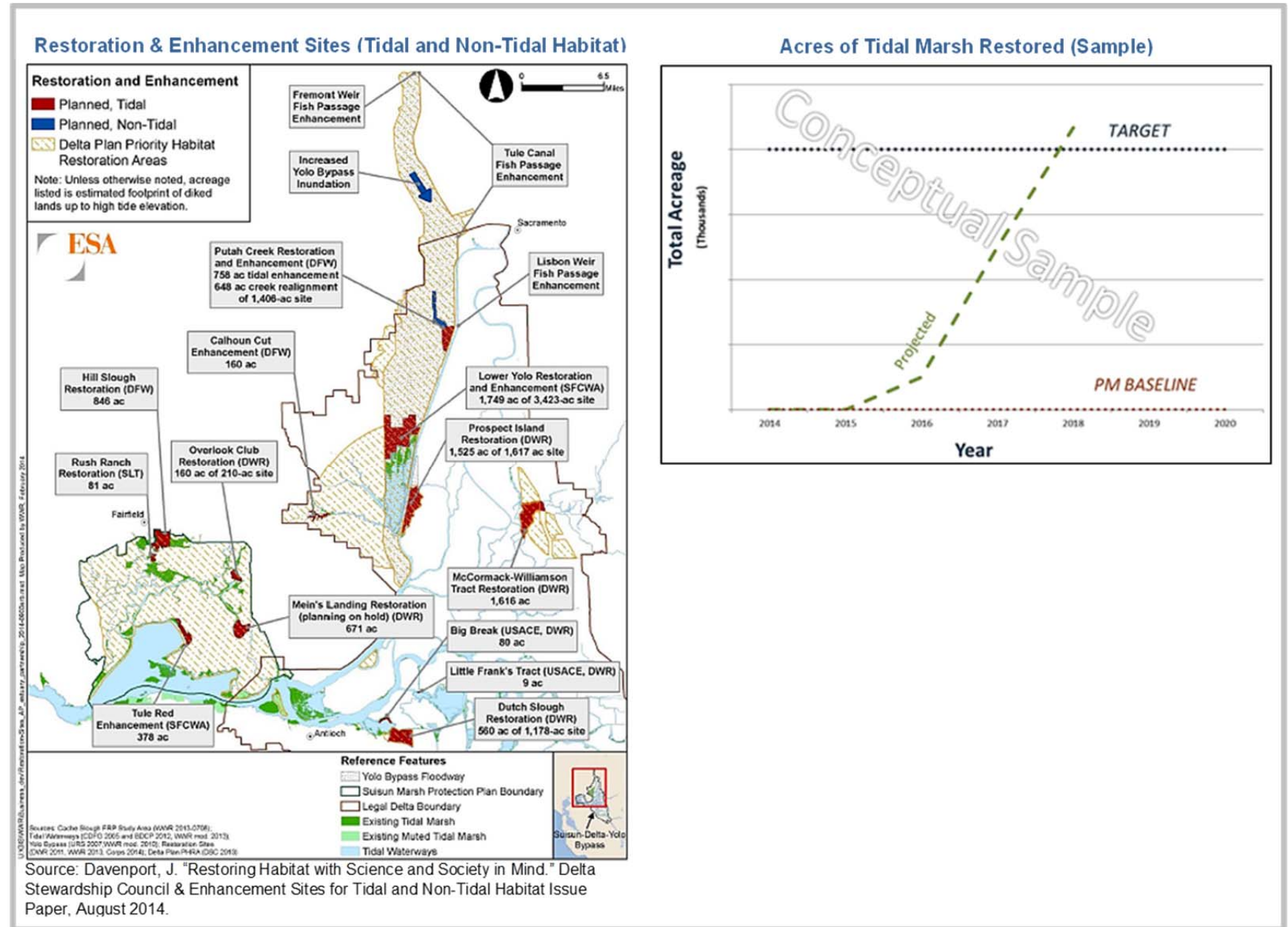
In the near-term, staff will focus on the following activities:

- Staffing: Fill two vacancies in the Performance Management Office to assist with data collecting, tracking, analyzing and reporting activities (by January 1, 2015).
- Administrative Measures: Continue to track and report on the status of Delta Plan Administrative Performance Measures.
- Output and Outcome Measures: Implement initial 10 pilot measures and initiate assessment of remaining 33 measures.
- Interagency Coordination: Continue to coordinate and collaborate with other agencies undertaking performance measures/management work in the Delta to improve data accessibility, increase knowledge and information sharing, and to avoid duplication efforts.
- Tracking Tools: Develop and implement automated tools that will track progress of the Delta Plan while also informing stakeholders and the public.

Long-term actions include:

- Further refinement: The degree of refinement varies by performance measure, and in a few cases the change is substantial. Factors leading to these refinements are many, including initial limitations in data availability and quality, and future opportunities for improved inter-agency coordination and reporting. The Council's analysis of the 10 pilot performance measures has already defined recommended refinements for each measure. Analysis of the remaining 33 measures will produce similar types of recommendations.
- Coordination with parallel efforts: All of the performance measures are dependent on data and information generated, compiled, and often analyzed, by other agencies and entities. Strong coordination and the commitment of necessary resources will be key to bridging data gaps and the implementation process overall.
- Effective, continuing collaboration: The Council needs to work closely with the Legislature and partner agencies to help further in achieving the coequal goals. The Delta Plan Interagency Implementation Committee (DPIIC) can serve as an

Figure 5: Performance Reporting Samples – Acres of Aquatic Habitat Restored



extension of the leadership, an information clearinghouse, and a venue for conflict resolution. The performance measures program within the Council can complement the Council's efforts here.

List of Attachments

Attachment 1: Table of Administrative Performance Measures by Status and Chapter

Contact

John Ryan
Program Manager, Performance Management

Phone: (916) 445-0672